

November 2021

Paper of the Month, November 2021: Bradley Efron (2020) Prediction, Estimation, and Attribution, *Journal of the American Statistical Association*, 115:530, 636-655, DOI: 10.1080/01621459.2020.1762613

While views on what makes a science may be diverse, John W. Tukey identified three constituents are essential: “1) intellectual content, 2) organization into an understandable form, 3) reliance upon the test of experience as the ultimate standard of validity”. In the modern era of data science, lots of research efforts and time are spent on prediction algorithms. Examples include random forest, gradient boosting, support vector machines, and deep learning. What is the relationship between prediction, estimation and attribution? How do they contribute to the three constituents of science? We will discuss a timely and thought-provoking paper by Bradley Efron on this matter.

References:

1. Efron, B., (2020) Prediction, Estimation, and Attribution, *Journal of the American Statistical Association*, 115:530, 636-655, DOI: 10.1080/01621459.2020.1762613
2. Tukey, J.W., 1962. The Future of Data Analysis. *The Annals of Mathematical Statistics*, 33(1), pp.1-67.